REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

After canceling claims 2-3 and 12-14 and amending claim 1, claim 1 is now the only pending claim in the current application.

The Examiner's Rejections under 35 USC §112, second paragraph are Moot

In the Office Action of April 17, 2003, the Examiner rejected claims 2-3 and 13-14 under 35 U.S.C. § 112, second paragraph as indefinite and failing to particularly point out and distinctly claim the subject matter the applicants regard as the invention. (Prosecution History of 09/608,892, Paper No. 14, page 3-4). The Examiner maintained the previous rejection set forth in the previous office action of August 28, 2002 (*See* Prosecution History of 09/608,892, Paper No. 11, page 3-4).

While Applicants maintain their position that the Examiner's rejection of previously pending claims 2-3 and 13-14 is not proper, Applicants have canceled claim 2-3 and 13-14 solely to expedite prosecution. In view of Applicants' cancellation of claims 2-3 and 13-14, the Examiner's rejection of these claims under 35 U.S.C. § 112, second paragraph is now moot. Withdrawal of the rejections under 35 U.S.C. § 112, second paragraph is earnestly solicited.

The Examiner's Rejections under 35 USC §102(e) are Traversed

Wei

In the office action dated April 17, 2003, the Examiner rejected claims 1-2 and 12-14 under 35 U.S.C. § 102 (e) as being anticipated by Wei, for reasons set forth in the previous office action. Specifically, the Examiner stated in the August 28, 2002 office action that "Wei discloses a specific peptide sequence that contains the elected species of sequence FEFVG." (Prosecution History of 09/608,892, Paper No. 11, page 5). The Examiner also stated that "[i]t is not clear

from the claims whether the elected species consists only of the FEFVG or the sequence comprised other amino acid residues beside the ones given therein...." *Id.* (emphasis in original)

In spite of the Examiner's assertions, previous claims 1-2 and 12-14, as well as amended claim 1, are explicit in their requirements that the claimed peptides consist of an amino acid sequence, such as the elected species, FEFVG. Neither the previously pending claims nor the currently pending claim ever contained the transitional phrase "comprising" which is used indicate that the claim is open-ended to include unrecited elements of the claim. The lack of such open-ended language in the claims should have unambiguously indicated to the Examiner that the claimed peptides consist of the listed amino acids. Accordingly, it has been, and continues to be, entirely clear that the pending claims of the current application are directed to peptides that consist of the sequences as given in the sequence listing of the specification.

Accordingly, Wei does not, and never has, anticipate any of the claims of the currently pending application. Specifically, Wei is directed to a human MutT2 polypeptide. Wei does not disclose a peptide that consists of five amino acids (*e.g.*, FEFVG). That the Examiner was able search the MutT2 amino acid sequence and find a portion of the full length amino acid sequence that corresponds to the currently elected species does not render Wei anticipatory over any of the claims of the currently pending application.

All of the peptides or fragments taught in Wei must possess human MutT2 activity. Specifically, Wei does not even contemplate fragments that do not possess the same biological function or activity as the MutT2 polypeptide. Specifically, Wei teaches that the term "fragment" "means a polypeptide which retains essentially the same biological function or activity as [the full length MutT2 polypeptide]." (United States Patent No. 6,103,871, column 5, lines 56-57). In contrast, the peptides of the currently pending claims do not possess essentially the same biological function or activity of the MutT2 polypeptide. Rather, the polypeptides of the current invention can be used in a cell culture environment to affect cell growth.

The Examiner asserts that "treating a disease associated with errors in DNA replication, as Wei discloses, is equivalent, if not the same, to the argued cell growth." (Prosecution History of 09/608,892, Paper No. 14, page 6). However, the Examiner's understanding of Wei, in addition to her assertion that "treating a disease associated with errors in DNA replication" is "equivalent" to inhibiting cell growth in culture media are incorrect. Specifically, Wei discloses a MutT2 protein which is capable of degrading potential mutagens prior to their incorporation into replicating DNA. If it is within the Examiner's personal knowledge that a protein capable of hydrolyzing a potential mutagen will necessarily alter cell growth in culture media, the Examiner is invited to submit an affidavit under 37 C.F.R. § 104(d)(2) attesting to such personal knowledge, including data to support such assertions.

The Examiner also asserts that previously pending claim 3, which contained the limitation that the amino acid sequence be contained within a comcatemer, is anticipated by the specific peptide of at least 30 amino acids in Wei. This understanding of a comcatemer is incorrect. As is used in the art, as well as in the specification of the current pending application, a comcatemer is a DNA segment composed of hundreds of copies of a coding sequence. For example, a comcatemer that codes for the elected species, FEFVG, would contain hundreds of copies of a coding sequence for this pentamer. Accordingly, the polypeptide encoded by the comcatemer would contain hundreds of copies of the FEFVG pentamer, prior to enzymatic cleavage. Thus, Wei does not teach or even suggest an amino acid sequence of at least 30 amino acids that contains repeats of any pentamer, let alone the elected species.

Accordingly, Wei does not anticipate any of the previous or currently pending claims. Reconsideration and withdrawal of the Examiner's Rejection under 35 U.S.C. § 102 (e) is earnestly solicited.

The Examiner's Rejections under 35 USC § 103 are Traversed

Wei

To establish a case of *prima facie* obviousness, the Examiner must meet three criteria. First the Examiner must show that the references upon which he or she relied teach every limitation of the currently claimed invention, *In re Royka,* 490 F.2d 981, 985 (C.C.P.A. 1974). Second, the Examiner must show that there is some suggestion or motivation in the references themselves, or within the knowledge of one of ordinary skill in the art, to combine (or alter) the references to arrive at the claimed invention. Lastly, the Examiner must show that there is a reasonable expectation of success in combining these references, and that this expectation of success is found in the references as well. *See In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Applicant asserts that the Examiner has not cited any references or provided sufficient reasoning to meet these criteria, and thus has not fulfilled the burden of proving that the claims are obvious over the cited references.

First, Wei, as discussed above, does not teach or even suggest the limitations of the currently pending claims. Specifically, Wei does not teach that short polypeptides, including the peptides listed in the accompanying sequence listing, are capable of altering cell growth under cell culture conditions.

Additionally, the Examiner has failed to demonstrate that there is any suggestion or motivation in the references, or within the knowledge of one of ordinary skill, to alter or manipulate the proteins or peptides as disclosed as in Wei to arrive at the polypeptides disclosed in the currently pending application. In fact, the Examiner does not even discuss the motivation to alter the peptides as taught as in Wei to arrive at the currently claimed peptides.

Finally, the Examiner fails to show that there is a reasonable expectation of success in producing the active peptides as described in the currently pending application by enzymatically digesting the peptides disclosed in Wei. In fact, the Examiner does not and cannot point to any reasonable expectation of success in Wei for producing the currently claimed peptides. Instead,

the Examiner, without support, asserts that "it would be within the ordinary skill in the art to determine which of the short length polypeptide [*sic*], 30-mer, the portions that are biologically active." (Prosecution History of 09/608,892, Paper No. 14, page 8).

Accordingly, because the Examiner has failed to meet all three criteria necessary to establish a case of prima facie obvious, the Examiner's rejection of the claims under 35 U.S.C. § 103(a) is improper. Reconsideration and withdrawal of the outstanding obviousness rejection is earnestly solicited.

CONCLUSION

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date September 16, 2003

By _____

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A peptide having an amino acid sequence consisting of an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO: 26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:70, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:75, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:81, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93 and SEQ ID NO:94.